WASHINGTON LETTER.

WASHINGTON, DEC. 21, 1896.

MEXICAN BOUNDARY.—Lieut. Col. J. W. Barlow, Corps of Engineers, U. S. A., on behalf of an international commission has made a final report of the resurvey of the boundary line between the United States and Mexico. Under the treaty creating the Commission, its conclusions are binding upon both Governments. Associated with Col. Barlow were Lieut. D. D. Gaillard and A. T. Mosman of the Coast Survey on the part of the United States, and Señores Don Jacobo Blanco, Valentin Gama, and Capt. Caspar Martinez Caballos on the part of Mexico.

The Rio Grande is the boundary from El Paso eastward. The distance from El Paso westward to the Pacific is 700 miles. Along this route 258 iron and stone monuments have been erected at an average of one to every two and one-half miles. In thickly settled districts they are not more than one mile apart. The widest interval is five miles. There are only two monuments throughout the entire distance of 700 miles from which the next one may not be observed. No monuments were set on that part of the boundary formed by the Colorado River, nor along the Rio Grande. These monuments are models of construction and design. They consist of shafts of stone twelve feet high and about six feet in diameter at the base. But where stone was not available, iron columns six feet by two are used. The monuments are bolted to concrete foundations or solid rock. On the face of all is the inscription:

BOUNDARY OF THE UNITED STATES,
Treaty of 1853.
Reëstablished by treaties of 1882–89.

The destruction, displacement or defacement of this monument is a misdemeanor, punishable by the United States or Mexico.

There is a similar Spanish inscription on the Mexican side. Every monument is numbered. No. 1 is two miles west of El Paso, and No. 258 a few yards from the sea, near San Diego, Cal. Some were set in places almost inaccessible. No. 153 is bolted to the crest of the Cerro de la Lesna, a peak in Southern Arizona, with sides almost perpendicular. Nos. 255 and 256, being in a thickly settled section, are handsomely built of granite and marble, surrounded by fences of steel pickets.

In surveying a belt of country three and a half miles wide on each side of the boundary the Commissioners encountered many perils and much suffering from heat, powdery sands and lack of water. While working at Soynota the mean temperature was 126° in the shade, and in crossing the Tule and Yuma deserts the water for men and animals had to be hauled 100 miles.

This work has been prosecuted by an international commission under a treaty concluded between the United States and Mexico July 29, 1882. It ends controversy concerning territorial rights on the Mexican border.

GEOLOGICAL SURVEY.—Mr. Arnold Hague is engaged in the preparation and study of the data and material collected during his nine years of survey in the Yellowstone National Park. The final work on the atlas folio is completed, and the geologic sheets and explanatory text are now going through the press. This monograph on the park will be published in two parts. Part II, which is mainly descriptive in its treatment of the subject, is about ready for the press. The collaborators on this work include Prof. J. P. Iddings, W. H. Weed, Charles D. Walcott, T. W. Stanton, G. H. Girty, and F. H. Knowlton. The latter furnishes a chapter on the fossil flora of the park, describing in detail the collections made from time to time in this region. The illustrations are in an advanced state of preparation.

Mr. Bailey Willis has been engaged in reconnoissance work in northwestern Washington. He examined recently the glaciers on the northern and western slopes of Mount Rainier, and found that the Puyallup glacier had retreated at least 600 and possibly 1,000 feet from the position it occupied when he examined it in 1883. His examination of the region about Mount Rainier has intensified his former impression that it is unique in character and should be set aside as a national park.

The investigations of the Irrigation Survey (a Division of the U. S. Geological Survey) consist of three distinct classes of work. The first comprises the measurement of streams and determination of the surface supplies in lakes and rivers. The second, the examination of underground currents and artesian wells. It is mainly geologic in character, as distinguished from engineering surveys. The third class of work consists in the preparation of short popular reports giving the results of the measurements of streams, and describing the methods of utilizing the water resources, particularly for irrigation. The work of this Division has been continued

through eight years. Men have been trained in its operations and instruments have been devised and tested. Mr. F. H. Newell is the chief officer in charge.

A number of papers upon water supply and irrigation, especially those of a popular nature, are being prepared for publication. The scope of these papers is broad, embracing subjects from the technical description of river measurements and results, intended mainly for engineers, to the general descriptions and directions for constructing irrigating plants, designed for the farmer. Arrangements have been made for papers upon the following subjects: River measurements in the East; River measurements in the Missouri drainage; River measurements west of the Rocky Mountains; The water power of a portion of New England; The water power of the Southeastern Appalachian slope; The water supply of Indiana; Recent development of Artesian wells and irrigation in the Dakotas; The underground waters of eastern Nebraska; Water supplies of southeastern Kansas; Methods of irrigation on the Great Plains; Methods of applying water in Arizona and in California; Seepage waters from irrigation; Water storage in Big Horn Mountains; Efficiency of windmills in irrigation; Sewage irrigation; Artesian conditions of eastern Washington and western Idaho; Water supply in the vicinity of Devil's Lake. The first paper of the series, that by Mr. H. M. Wilson upon pumping water for irrigation, is in press.

The results of the work of the Geological Survey in this connection are best shown by the publications (27 in number) relating to water resources, most of them having been prepared in the Division of Hydrography.

HYDROGRAPHIC OFFICE.—The United States Hydrographic Office is engaged in collecting information of a commercial and non-military character relative to the regulations, facilities, etc., of the various ports of the world.

The set of general ocean charts issued by this office has been completed. The set of general coast charts of the Western Hemisphere is practically complete. A very large proportion of the special coast charts of the Western Hemisphere is available for issue, and work has been extended into the Eastern Hemisphere.

The Pilot Chart of the North Pacific Ocean is now permanently established, and issued regularly on the 23d of each month for the succeeding month, in order to allow for transmission to the Pacific Coast by mail. Daily observations received are not yet numerous enough to permit the plotting of the storm tracks of the North Pacific on the chart.

ALASKA.—The prospects are good for immediate negotiations for the precise demarcation of the coastwise Alaskan boundary.

Proposals have been accepted for the immediate location of the line along the 141st meridian by setting international monuments at or between convenient points already determined by independent American and Canadian surveys.

The Government has recently established a post-office at Circle City, 900 miles inland on the upper Yukon River. This mail service through the heart of Alaska is somewhat unique. A vast part of the territory is wild and uninhabited, but about the recently discovered gold fields there has sprung up a rude sort of civilization. Miners and others compelled to trust to chance in sending out their mail sometimes pay a dollar a letter for the privilege of sending by persons leaving camp for civilization. The mail is now carried by river, Indian portage and dog trains. The first trip was made June 11, when 1,474 letters were started from Juneau and carried into the Circle City post-office on the 14th of the following month. The return trip was made *via* St. Michaels and Bering Sea. Circle City is a place of 1,800 people. The only Government official is the Postmaster, who says town lots are selling for $2,000 each.

The editor of the *Mining Record* has compiled data showing the gold output of the Territory for the current year to be $4,670,000. The output for 1895 was $3,000,000. That estimated for 1897 is $6,000,000.

COMMANDER ISLANDS AND BERING SEA.—Leonhard Stejneger, who was associated with David Jordan and others as a Government Commission to make an investigation of the seal islands of Bering Sea, gives a large amount of new information* concerning the geography and history of the Commander Islands, and of the hydrography of the west portion of Bering Sea.

The treatise referred to is based upon observations gathered during two different visits, the first in 1882–83, the latter in 1895. Mr. Stejneger claims that he is in possession of a great amount of interesting information about these islands never published, or else very inaccessible. He presents a chart of the western portion of Bering Sea prepared by himself, on which the deep-sea soundings of the *Albatross* (1892–95) are here first shown, as well as curves connecting them with the *Tuscarora* soundings (1874), and asserts as the results of recent investigations that the following points may

* See his *Russian Fur-Seal Islands*, Washington, 1896.

now be regarded as fairly well established: (1) The Commander Islands are situated on the extreme eastern point of a plateau-like ridge, having a probable average depth of about 500 fathoms, and extending eastward from the coast of Kamchatka. (2) This plateau rises very abruptly from an ocean floor of a little more than 2,000 fathoms, so that the islands on their northern and eastern sides rise nearly perpendicular out of this depth. (3) Between the Commander Islands and Attu — the nearest of the Aleutian Islands, there is a gap certainly more than 1,900 fathoms deep. (4) The bottom of Bering Sea to the east of Commander Islands forms a nearly level floor of an almost uniform depth of 2,100 fathoms, sending off an arm or bay of equal depth to the north of the islands towards the neck of the Kamchatkan peninsula.

Detailed descriptions of the fauna, flora, meteorology and population of each of the islands of the Commander group, and of other Russian islands in Bering Sea, based on personal observations, make us better acquainted with these little-known regions.

CENSUS METHODS.—The International Statistical Institute at its session in Bern in 1895 appointed a committee to consider the propriety of urging all the leading governments that are in the habit of taking decennial censuses to fix practically a uniform date, like the year 1900, and also to arrange for some uniformity in the inquiries, for the purpose of general and international comparison. Hon. Carroll D. Wright, American member of the Institute, was made a member of the Committee. Congress practically indorsed the proposition on behalf of the United States by a joint resolution, approved March 19, 1896, directing the Superintendent of the Census to confer with the census officers of other governments for the purpose of securing uniformity in the inquiries relating to the people to be used in the census of 1900 and future censuses. The Superintendent says the work of the Bern Committee is going on satisfactorily. This is probably the most important movement of the century in the direction of statistical inquiry.

The Superintendent of the Census has formulated a plan for a permanent census service, so that there shall be a more scientifically arranged system under which the Federal censuses of the future may be taken, and to bring out results with greater promptness. Practically the Government has already a continuous census service, either under a superintendent, or a chief of a division, or a census clerk attached to the Interior Department. Col. Wright proposes the establishment of a census bureau separate and unat-

tached from any other department of the Government, but under the control of a director, aided by an assistant, a chief clerk, a disbursing clerk, five chief statisticians, and necessary clerks and employés. The plan provides for a general census to be taken April 15, 1900, and every ten years thereafter, which will include a wide field of inquiry and investigation, and an enumeration of the people every five years.

All the volumes pertaining to the Eleventh Census (1890) are now either published or in the hands of the printer. There are 25 volumes of final reports and 24 miscellaneous volumes and monographs. The following is a complete list:

FINAL REPORTS.

Agriculture, including Agriculture by Irrigation and Statistics of Fisheries.
Alaska, Population and Resources.
Churches.
Crime, Pauperism, and Benevolence, Parts I and II.
Farms and Homes: Proprietorship and Indebtedness.
Indians, Taxed and not Taxed, in the United States (except Alaska).
Insane, Feeble-minded, Deaf and Dumb, and Blind.
Insurance, Part I (fire).
Insurance, Part II (life).
Manufacturing Industries, Part I (totals for States and Territories and industries).
Manufacturing Industries, Part II (totals for cities).
Manufacturing Industries, Part III (selected industries).
Mineral Industries.
Population, Parts I and II.
Real Estate Mortgages.
Transportation, Part I (by land, embracing reports on steam railroads, street railways, including horse railways, cable railways, electric railways, and steam railways engaged exclusively in city passenger traffic).
Transportation, Part II (by water, embracing reports on the Atlantic Coast and Gulf of Mexico, Pacific Coast (exclusive of Alaska), Great Lakes, Lake Champlain, rivers of the Mississippi Valley, canals and canalized rivers, and express companies).
Vital and Social Statistics, Parts I, II, III and IV.
Wealth, Debt, and Taxation, Part I (public debt).
Wealth, Debt, and Taxation, Part II (valuation and taxation).

MISCELLANEOUS VOLUMES.

Compendium of the Eleventh Census, Parts I, II and III.
Abstract of the Eleventh Census, first and second editions.
Special report relating to occupations.
Statistical Atlas.

Monographs.

Vital Statistics of the District of Columbia and Baltimore.
Vital Statistics of New York and Brooklyn.

Vital Statistics of Boston and Philadelphia.
Social Statistics of Cities.
Marble Quarrying.
Moqui Pueblo Indians.
Cherokee Indians.
"Six Nations" Indians.
"Five Civilized Tribes" Indians.
Electrical Industries in the State of New York.
Education.
Street Railways.
Transportation on the Pacific Coast.
Transportation on the Rivers of the Mississippi Valley.
Transportation on the Great Lakes.
Textiles.
Irrigation.
Glue.

In addition to the above, 380 Bulletins and 99 Extra Bulletins (quarto pamphlets) have been issued since 1890, announcing results as the work progressed.

TERRITORIES.—The development of Oklahoma during 1896 has been greater probably than any other portion of the United States. The Territory is gaining considerable notoriety as a health resort, on account of the dry, delightful climate of the spring, fall, and winter months. The population, now numbering 275,000, is largely American by birth. Perhaps few States are more distinctly so. The adventurers and speculators, who at the opening of the reservation took possession of the homesteads, are steadily relinquishing their holdings to a more substantial class. The assessed valuation of the Territory is $24,815,711. The deep-water harbor at Galveston will place Oklahoma 1,000 miles nearer an export point, and therefore her people are very much interested in that undertaking. The consequent reduction of freight rates will prove a great factor in the material development of the country. The railroad lines are doing a profitable business.

The proposition is made that preparatory to the admission into the Union, Arizona and New Mexico should be reunited, that Oklahoma be joined with them, and the three made into one State. This would close the State-making era for many years to come, as the only Territories remaining would be the District of Columbia, the Indian Territory, and Alaska, neither of which make serious pretensions to statehood.

New Mexico and Arizona were originally one territory, and included portions of Colorado and Nevada. The proposed consoli-

dated territory contains about 275,000 square miles,—an area more than twice as large as Great Britain and Ireland,—and a population five times greater than the State of Wyoming and six times greater than Nevada.

NOTES.—Commissioners have been appointed to confer with a similar commission on behalf of Great Britain and the Dominion of Canada to inquire into the feasibility of constructing a deep waterway for seagoing ships between the Great Lakes and the Atlantic Ocean.

The assent of the chief maritime nations having been given to the lately perfected International Rules for the prevention of collisions at sea, and to the proposal of the United States that those rules shall be put in operation July 1, 1897, the negotiations—long protracted—have reached a satisfactory result.

Commander Z. L. Tanner s account of operations of the *Albatross* in Bering Sea during 1893–94 has recently been published, accompanied by a chart compiled from all available sources.

Intercontinental Railway.—The Intercontinental Railway Commission is still at work on the final report. The surveys that have been made by several corps of engineers extend from Mexico to Bolivia. The report will comprise about eight quarto volumes of text and plates, and will surpass in interest anything in this line since the publication of the surveys for the great railroad routes to the Pacific Ocean in 1856.

The Committee, it will be remembered, was an outgrowth of the conference between the Republics of North and South America, held in Washington in 1890. The railroad project contemplates a trunk line through a part of Mexico, Guatemala, Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Ecuador, Peru and Bolivia, with branch lines extending into Venezuela, Chile, Argentina, Paraguay and Uruguay.

The confederation of the Republics of Nicaragua, Honduras, and Salvador under the name of the "Greater Republic of Central America" seems to be in effect an alliance for mutual protection against outside pressure. Señor Rodriguez, the accredited representative, is in Washington awaiting official recognition. The three republics have a population of about 1,500,000, and foreign trade valued at $20,000,000 annually. It is stated that so far the Department of State has not been assured as to the exact nature of the combination. H.